

METHODS AND EQUIPMENT FOR REDUCING NITROGEN OXIDES EMISSIONS BY BOILERS



Areas of Application

The methods and equipment are to be used by power engineering companies and communal enterprises for boilers of thermal power stations, central heating and power plants, and powerful boiler stations. Its application enables to reduce NO_x emissions from natural gas combustion to meet the European standards

Specification

The approach is based on the use of staged combustion burners, recirculation (including into fuel), staged combustion cycle or by simultaneous use of several methods. The staged combustion burners:

$$\alpha = 1.2$$

Control factor 5

$$\text{NO}_x \leq 100 \text{ mg/nm}^3$$

$$\text{CO} \leq 100 \text{ mg/nm}^3 \text{ at } 3\% \text{ O}_2$$

Advantages

The lowest capital costs among the counterparts; implementable on existing 4–1000 MW boilers installed as long as 40–50 years ago.

The rehabilitation extends service life of boilers by 15–20 years; the method is implementable in the course of repair works

Stage of Development.

Suggestions for Commercialization

IRL7, TRL8

Upon request, equipment is manufactured, supplied, mounted, commissioned, and serviced during the warranty period; staff training is provided

IPR Protection

IPR3

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